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<110> Schembri, Mark Andrew  
Klemm, Per

5 <120> Novel multifunctional adhesin proteins  
and their display in microbial cells

<130> 21352 PC 1

10 <150> PA 1998 00598  
<151> 1998-04-30

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15 <170> FastSEQ for Windows Version 3.0

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50 55 60  
Cys His Asn Asp Tyr Pro Glu Thr Ile Thr Asp Tyr Val Thr Leu Gln  
65 70 75 80  
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35 85 90 95  
Lys Tyr Ser Gly Ser Ser Tyr Pro Phe Pro Thr Thr Ser Glu Thr Pro  
100 105 110  
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130 135 140  
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Asp Asp Phe Gln Phe Val Trp Asn Ile Tyr Ala Asn Asn Asp Val Val  
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Val Pro Thr Gly Gly Cys Asp Val Ser Ala Arg Asp Val Thr Val Thr  
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Leu Pro Asp Tyr Pro Gly Ser Val Pro Ile Pro Leu Thr Val Tyr Cys  
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# SEQUENCE LISTING

<110> Schembri, Mark Andrew  
Klemm, Per

<120> Novel multifunctional adhesin proteins  
and their display in microbial cells

<130> 21352 PC 1

<150> PA 1998 00598

<151> 1998-04-30  
Prov PA 60/083,794  
1998-05-01

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      35      40      45
Val Asn Val Gly Gln Asn Leu Val Val Asp Leu Ser Thr Gln Ile Phe
      50      55      60
Cys His Asn Asp Tyr Pro Glu Thr Ile Thr Asp Tyr Val Thr Leu Gln
      65      70      75      80
Arg Gly Ser Ala Tyr Gly Gly Val Leu Ser Asn Phe Ser Gly Thr Val
      85      90      95
Lys Tyr Ser Gly Ser Ser Tyr Pro Phe Pro Thr Thr Ser Glu Thr Pro
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<210> 30

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Sequence conferring the ability of cells to adhere  
to metal oxides

<400> 30

Arg Ser Cys Pro Arg Leu Gly Val Trp Phe Tyr Arg Ser Leu Ser Val  
1 5 10 15  
Gly Asp Gly Phe Val Arg Arg Ser  
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<210> 31

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Sequence conferring the ability of cells to adhere  
to metal oxides

<400> 31

Arg Ser Thr Ser Gly Pro Ser Arg Val Met Thr Arg Ser Ile Ile Leu  
1 5 10 15  
Arg Ile Gly Thr Leu Asp Arg Ser Cys Leu Lys Val Phe His Met Gly  
20 25 30

Trp Arg Ser  
35

<210> 32  
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to metal oxides

<400> 32  
Arg Ser Ile Thr Pro Ile Leu His Asp His Arg Arg Ser Ser Val Arg  
1 5 10 15  
Pro Met Val Ala His Arg Arg Ser Pro Thr Leu Tyr Phe Pro Ala Ala  
20 25 30  
Ser Arg Ser  
35

<210> 33  
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<220>  
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<400> 33  
Ser Lys Xaa Xaa Ala Arg  
1 5

<210> 34  
<211> 6  
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<220>  
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<400> 34  
Ser Arg Xaa Xaa Ala Arg  
1 5



<210> 35  
<211> 6  
<212> PRT  
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<220>  
<223> Binding motif

<400> 35  
Thr Lys Xaa Xaa Ala Arg  
1 5

<210> 36  
<211> 6  
<212> PRT  
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<220>  
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<400> 36  
Thr Arg Xaa Xaa Ala Arg  
1 5

<210> 37  
<211> 7  
<212> PRT  
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<220>  
<223> Binding motif

<400> 37  
Arg Xaa Xaa Xaa His Arg Ser  
1 5

<210> 38  
<211> 24  
<212> PRT  
<213> Artificial Sequence

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<223> Sequence conferring the ability of cells to adhere  
to ZnO

<400> 38

Arg Ser Asn Thr Arg Met Thr Ala Arg Gln His Arg Ser Ala Asn His  
1 5 10 15  
Lys Ser Thr Gln Arg Ala Arg Ser  
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<210> 39

<211> 24

<212> PRT

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to ZnO

<400> 39

Arg Ser Val Phe Leu Pro Ser Ile Leu Gly Trp Arg Ser Arg Leu Asp  
1 5 10 15  
Asp Gln Gly Val Ala Ala Arg Ser  
20

<210> 40

<211> 24

<212> PRT

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to ZnO

<400> 40

Arg Ser Thr Arg Asn Lys His Thr Thr Ala Arg Arg Ser Val Ala Pro  
1 5 10 15  
Gly Ile Gly Glu Pro Ser Arg Ser  
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<210> 41

<211> 24

<212> PRT

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to ZnO

<400> 41

Arg Ser Ile Met His Val Arg Leu Arg Ala Arg Arg Ser Ala Arg His  
1 5 10 15  
Met Lys Asp Ala Asp Pro Arg Ser  
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<210> 42

<211> 24

<212> PRT

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<223> Sequence conferring the ability of cells to adhere  
to ZnO

<400> 42

Arg Ser Pro Ile Ile Arg Ser Arg Ile Asn Arg Ser His Gly Arg  
1 5 10 15  
Thr Lys Ala Thr Pro Ala Arg Ser  
20

<210> 43

<211> 24

<212> PRT

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<220>

<223> Sequence conferring the ability of cells to adhere  
to ZnO

<400> 43

Arg Ser Arg Gly Leu Arg Asn Ile Leu Met Leu Arg Ser Tyr Asp Ser  
1 5 10 15  
Arg Ser Met Arg Pro His Arg Ser  
20

<210> 44

<211> 13

<212> PRT

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to ZnO

<400> 44

Arg Ser Thr Arg Arg Gly Thr His Asn Lys Asp Arg Ser  
1 5 10

<210> 45

<211> 14

<212> PRT

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to ZnO

<400> 45

Arg Ser Thr Val Pro Lys Lys Arg His Pro Lys Asp Arg Ser  
1 5 10

<210> 46

<211> 13

<212> PRT

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to ZnO

<400> 46

Arg Ser Tyr Asp Ser Arg Ser Met Arg Pro His Arg Ser  
1 5 10